

SEQUENCE LISTING

<110> CHEN, Hong

<120> HUMAN GLUCOSE-6-PHOSPHATASE MOLECULES AND USES THEREOF

<130> 10147-33U1

<140> Not Yet Assigned

<141> 2001-06-01

<150> US 09/586,511

<151> 2000-06-02

<160> 27

<170> PatentIn Ver. 2.1

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<211> 1138

<212> DNA

<213> Homo sapiens

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<211> 355

<212> PRT

<213> Homo sapiens

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Lys Asp Tyr Arg Ala Tyr Tyr Thr Phe Leu Asn Phe Met Ser Asn Val
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Gly Asp Pro Arg Asn Ile Phe Phe Ile Tyr Phe Pro Leu Cys Phe Gln
35 40 45

Phe Asn Gln Thr Val Gly Thr Lys Met Ile Trp Val Ala Val Ile Gly
50 55 60

Asp Trp Leu Asn Leu Ile Phe Lys Trp Ile Leu Phe Gly His Arg Pro
65 70 75 80

Tyr Trp Trp Val Gln Glu Thr Gln Ile Tyr Pro Asn His Ser Ser Pro
85 90 95

Cys Leu Glu Gln Phe Pro Thr Thr Cys Glu Thr Gly Pro Gly Ser Pro

100	105	110
Ser Gly His Ala Met Gly Ala Ser Cys Val Trp Tyr Val Met Val Thr		
115	120	125
Ala Ala Leu Ser His Thr Val Cys Gly Met Asp Lys Phe Ser Ile Thr		
130	135	140
Leu His Arg Leu Thr Trp Ser Phe Leu Trp Ser Val Phe Trp Leu Ile		
145	150	155
Gln Ile Ser Val Cys Ile Ser Arg Val Phe Ile Ala Thr His Phe Pro		
165	170	175
His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala		
180	185	190
Phe Glu His Thr Pro Gly Ile Gln Thr Ala Ser Leu Gly Thr Tyr Leu		
195	200	205
Lys Thr Asn Leu Phe Leu Phe Ala Val Gly Phe Tyr Leu Leu		
210	215	220
Leu Arg Val Leu Asn Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys		
225	230	235
240		
Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Thr Thr Pro Phe		
245	250	255
Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala		
260	265	270
Ile Asn Ser Glu Met Phe Leu Leu Ser Cys Arg Gly Gly Asn Asn Tyr		
275	280	285
Thr Leu Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Ile Leu		
290	295	300
Gln Leu Tyr His Phe Leu Gln Ile Pro Thr His Glu Glu His Leu Phe		
305	310	315
320		
Tyr Val Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Thr Val Val		
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Ala Phe Ile Pro Tyr Ser Val His Met Leu Met Lys Gln Ser Gly Lys		
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Lys Ser Gln		

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<213> Mus musculus

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Gly Asp Pro Arg Asn Ile Phe Ser Ile Tyr Phe Pro Leu Trp Phe Gln
35 40 45
Leu Asn Gln Asn Val Gly Thr Lys Met Ile Trp Val Ala Val Ile Gly
50 55 60
Asp Trp Phe Asn Leu Ile Phe Lys Trp Ile Leu Phe Gly His Arg Pro
65 70 75 80
Tyr Trp Trp Ile Gln Glu Thr Glu Ile Tyr Pro Asn His Ser Ser Pro
85 90 95
Cys Leu Glu Gln Phe Pro Thr Thr Cys Glu Thr Gly Pro Gly Ser Pro
100 105 110
Ser Gly His Ala Met Gly Ser Ser Cys Val Trp Tyr Val Met Val Thr
115 120 125
Ala Ala Leu Ser Tyr Thr Ile Ser Arg Met Glu Glu Ser Ser Val Thr
130 135 140
Leu His Arg Leu Thr Trp Ser Phe Leu Trp Ser Val Phe Trp Leu Ile
145 150 155 160
Gln Ile Ser Val Cys Ile Ser Arg Val Phe Ile Ala Thr His Phe Pro
165 170 175
His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala
180 185 190
Phe Glu His Thr Pro Gly Val His Met Ala Ser Leu Ser Val Tyr Leu
195 200 205

Lys Thr Asn Val Phe Leu Phe Leu Ala Leu Gly Phe Tyr Leu Leu
210 215 220

Leu Arg Leu Phe Gly Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys
225 230 235 240

Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Ser Thr Pro Phe
245 250 255

Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala
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Ile Asn Ser Glu Met Phe Leu Arg Ser Cys Gln Gly Glu Asn Gly Thr
275 280 285

Lys Pro Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Thr Met
290 295 300

Gln Leu Tyr Arg Phe Ile Lys Ile Pro Thr His Ala Glu Pro Leu Phe
305 310 315 320

Tyr Leu Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Met Val Val
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Ala Leu Ile Pro Tyr Cys Val His Met Leu Met Arg Pro Gly Asp Lys
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Lys Thr Lys
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<213> Mus musculus

<400> 23

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20 25 30

Gly Asp Pro Arg Asn Ile Phe Ser Ile Tyr Phe Pro Leu Trp Phe Gln
35 40 45

Leu Asn Gln Asn Val Gly Thr Lys Met Ile Trp Val Ala Val Ile Gly
50 55 60

Asp Trp Phe Asn Leu Ile Phe Lys Trp Ile Leu Phe Gly His Arg Pro
65 70 75 80

Tyr Trp Trp Ile Gln Glu Thr Glu Ile Tyr Pro Asn His Ser Ser Pro
85 90 95

Cys Leu Glu Gln Phe Pro Thr Thr Cys Glu Thr Gly Pro Gly Ser Pro
100 105 110

Ser Gly His Ala Met Gly Ser Ser Cys Val Trp Tyr Val Met Val Thr
115 120 125

Ala Ala Leu Ser Tyr Thr Ile Ser Arg Met Glu Glu Ser Ser Val Thr
130 135 140

Leu His Arg Leu Thr Trp Ser Phe Leu Trp Ser Val Phe Trp Leu Ile
145 150 155 160

Gln	Ile	Ser	Val	Cys	Ile	Ser	Arg	Val	Phe	Ile	Ala	Thr	His	Phe	Pro
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															170
															175
His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala															
															180
															185
															190
Phe Glu His Thr Pro Gly Val His Met Ala Ser Leu Ser Val Tyr Leu															
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															200
															205
Lys Thr Asn Val Phe Leu Phe Ala Leu Gly Phe Tyr Leu Leu															
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															215
															220
Leu Arg Leu Phe Gly Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys															
															225
															230
															235
															240
Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Ser Thr Pro Phe															
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Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala															
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Ile Asn Ser Glu Met Phe Leu Arg Ser Cys Gln Gly Glu Asn Gly Thr															
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Lys Pro Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Thr Met															
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															300
Gln Leu Tyr Arg Phe Ile Lys Ile Pro Thr His Ala Glu Pro Leu Phe															
															305
															310
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Tyr Leu Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Met Val Val															
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Ala Leu Ile Pro Tyr Cys Val His Met Leu Met Arg Pro Gly Asp Lys															
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Lys Thr Lys															
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<210> 24

<211> 352

<212> PRT

<213> Haplochromis nubilis

<400> 24

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 20 25 30

Ala Asp Leu His Thr Thr Phe Phe Trp Leu Phe Pro Ile Trp Phe His
 35 40 45

Leu Arg Arg Asp Thr Ala Leu Arg Leu Ile Trp Val Ala Val Ile Gly
 50 55 60

Asp Trp Leu Asn Leu Val Leu Lys Trp Val Leu Phe Gly Glu Arg Pro
 65 70 75 80

Tyr Trp Trp Val His Glu Thr Lys Phe Tyr Gly Ala Gly Pro Ala Pro
 85 90 95

Ser Leu Gln Gln Phe Pro Ile Thr Cys Glu Thr Gly Pro Gly Ser Pro
 100 105 110

Ser Gly His Ala Met Gly Ala Ala Gly Val Trp Tyr Val Met Val Thr
 115 120 125

Ala Leu Leu Ser Ile Ala Arg Glu Lys Gln Cys Pro Pro Leu Leu Tyr
 130 135 140

Arg Phe Leu Tyr Ile Gly Leu Trp Met Leu Met Gly Leu Val Glu Leu
 145 150 155 160

Val Val Cys Ile Ser Arg Val Tyr Met Ala Ala His Phe Pro His Gln
 165 170 175

Val Ile Ala Gly Ile Ile Thr Gly Thr Leu Val Ala Glu Val Val Ser
 180 185 190

Lys Glu Lys Trp Ile Tyr Ser Ala Ser Leu Lys Lys Tyr Phe Leu Ile
 195 200 205

Thr Leu Phe Leu Thr Ser Phe Ala Val Gly Phe Tyr Val Leu Leu Lys
 210 215 220

Ala Leu Asp Val Asp Leu Leu Trp Thr Met Glu Lys Ala Gln Lys Trp
 225 230 235 240

Cys Ile Arg Pro Glu Trp Val His Leu Asp Ser Ala Pro Phe Ala Ser
 245 250 255

Leu Leu Arg Asn Met Gly Ser Leu Phe Gly Leu Gly Leu Gly Leu His
 260 265 270

Ser	Pro	Phe	Tyr	Lys	Thr	Thr	Lys	Met	Arg	Ile	Met	Ser	Ala	Pro	Leu		
275															285		
Arg	Ile	Gly	Cys	Ile	Val	Ile	Ser	Val	Ser	Leu	Leu	His	Leu	Leu	Asp		
290															295	300	
Gly	Trp	Thr	Phe	Ser	Pro	Glu	Asn	His	Met	Thr	Phe	Tyr	Ala	Leu	Ser		
305															310	315	320
Phe	Gly	Lys	Ser	Ala	Val	Ala	Leu	Leu	Ile	Pro	Thr	Thr	Leu	Val	Pro		
															325	330	335
Trp	Ala	Leu	Ser	Lys	Ile	Tyr	Pro	Val	Lys	Thr	Glu	Gly	Lys	Asn	Leu		
															340	345	350

<210> 25
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<212> PRT
<213> Mus sp.

<400> 25																		
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															20	25	30	
Val	Ser	Val	Ile	Ala	Asp	Leu	Arg	Asn	Ala	Phe	Tyr	Val	Leu	Phe	Pro			
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Ile	Trp	Phe	His	Leu	Lys	Glu	Thr	Val	Gly	Ile	Asn	Leu	Leu	Trp	Val			
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Ala	Val	Val	Gly	Asp	Trp	Phe	Asn	Leu	Val	Phe	Lys	Trp	Ile	Leu	Phe			
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Gly	Gln	Arg	Pro	Tyr	Trp	Trp	Val	Leu	Asp	Thr	Asp	Tyr	Tyr	Ser	Asn			
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Ser	Ser	Val	Pro	Ile	Ile	Lys	Gln	Phe	Pro	Val	Thr	Cys	Glu	Thr	Gly			
															100	105	110	
Pro	Gly	Ser	Pro	Ser	Gly	His	Ala	Met	Gly	Ala	Ala	Gly	Val	Tyr	Tyr			

115	120	125
Val Met Val Thr Ser Thr Leu Ala Ile Phe Arg Gly Lys Lys Pro		
130	135	140
Thr Tyr Gly Phe Arg Cys Leu Asn Val Ile Leu Trp Leu Gly Phe Trp		
145	150	155
Ala Val Gln Leu Asn Val Cys Leu Ser Arg Ile Tyr Leu Ala Ala His		
165	170	175
Phe Pro His Gln Val Val Ala Gly Val Leu Ser Gly Ile Ala Val Ala		
180	185	190
Glu Thr Phe Ser His Ile Arg Gly Ile Tyr Asn Ala Ser Leu Arg Lys		
195	200	205
Tyr Cys Leu Ile Thr Ile Phe Leu Phe Gly Phe Ala Leu Gly Phe Tyr		
210	215	220
Leu Leu Leu Lys Gly Leu Gly Val Asp Leu Leu Trp Thr Leu Glu Lys		
225	230	235
Ala Lys Arg Trp Cys Glu Arg Pro Glu Trp Val His Leu Asp Thr Thr		
245	250	255
Pro Phe Ala Ser Leu Phe Lys Asn Leu Gly Thr Leu Leu Gly Leu Gly		
260	265	270
Leu Ala Leu Asn Ser Ser Met Tyr Arg Lys Ser Cys Lys Gly Glu Leu		
275	280	285
Ser Lys Ser Phe Pro Phe Arg Phe Ala Cys Ile Val Ala Ser Leu Val		
290	295	300
Leu Leu His Leu Phe Asp Ser Leu Lys Pro Pro Ser Gln Val Glu Leu		
305	310	315
Ile Phe Tyr Ile Leu Ser Phe Cys Lys Ser Ala Thr Val Pro Phe Ala		
325	330	335
Ser Val Ser Leu Ile Pro Tyr Cys Leu Ala Arg Ile Leu Gly Gln Thr		
340	345	350
His Lys Lys Ser Leu		
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<210> 26
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<212> PRT
<213> Canis familiaris

<400> 26
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His Tyr Leu Gln Val Asn Tyr Gln Asp Ser Gln Asp Trp Phe Ile Leu
20 25 30

Val Ser Val Ile Ala Asp Leu Arg Asn Ala Phe Tyr Val Leu Phe Pro
35 40 45

Ile Trp Phe His Leu Arg Glu Ala Val Gly Ile Lys Leu Leu Trp Val
50 55 60

Ala Val Ile Gly Asp Trp Leu Asn Leu Val Phe Lys Trp Ile Leu Phe
65 70 75 80

Gly Gln Arg Pro Tyr Trp Trp Val Met Asp Thr Asp Tyr Tyr Ser Asn
85 90 95

Thr Ser Val Pro Leu Ile Lys Gln Phe Pro Val Thr Cys Glu Thr Gly
100 105 110

Pro Gly Ser Pro Ser Gly His Ala Met Gly Thr Ala Gly Val Tyr Tyr
115 120 125

Val Met Val Thr Ser Thr Leu Ser Ile Phe Arg Gly Arg Lys Arg Pro
130 135 140

Thr Tyr Arg Phe Arg Cys Leu Asn Ile Leu Leu Trp Leu Gly Phe Trp
145 150 155 160

Ala Val Gln Leu Asn Val Cys Leu Ser Arg Ile Tyr Leu Ala Ala His
165 170 175

Phe Pro His Gln Val Val Ala Gly Val Leu Ser Gly Ile Ala Val Ala
180 185 190

Glu Thr Phe Arg His Ile Gln Ser Ile Tyr Asn Ala Ser Leu Lys Lys
195 200 205

Tyr Phe Leu Ile Thr Phe Phe Leu Phe Ser Phe Ala Ile Gly Phe Tyr
210 215 220

Leu Leu Leu Lys Gly Leu Gly Val Asp Leu Leu Trp Thr Leu Glu Lys
 225 230 235 240
 Ala Arg Arg Trp Cys Glu Arg Pro Glu Trp Val His Ile Asp Thr Thr
 245 250 255
 Pro Phe Ala Ser Leu Leu Lys Asn Val Gly Thr Leu Phe Gly Leu Gly
 260 265 270
 Val Thr Leu Asn Ser Ser Met Tyr Arg Glu Ser Cys Lys Gly Lys Leu
 275 280 285
 Ser Lys Trp Phe Pro Phe Arg Leu Ser Cys Ile Val Val Ser Leu Ile
 290 295 300
 Leu Leu His Leu Phe Asp Ser Leu Lys Pro Pro Ser Gln Thr Glu Leu
 305 310 315 320
 Ile Phe Tyr Thr Leu Ser Phe Cys Lys Ser Ala Ala Val Pro Leu Ala
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 340 345 350
 Asp Lys Lys Ser Leu
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<210> 27
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 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Glu Glu Gly Met Asn Val Leu His Asp Phe Gly Ile Gln Ser Thr
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 Ile Trp Phe His Leu Gln Glu Ala Val Gly Ile Lys Leu Leu Trp Val
 50 55 60
 Ala Val Ile Gly Asp Trp Leu Asn Leu Val Phe Lys Trp Ile Leu Phe
 65 70 75 80

Gly Gln Arg Pro Tyr Trp Trp Val Leu Asp Thr Asp Tyr Tyr Ser Asn
85 90 95

Thr Ser Val Pro Leu Ile Lys Gln Phe Pro Val Thr Cys Glu Thr Gly
100 105 110

Pro Gly Ser Pro Ser Gly His Ala Met Gly Thr Ala Gly Val Tyr Tyr
115 120 125

Val Met Val Thr Ser Thr Leu Ser Ile Phe Gln Gly Lys Ile Lys Pro
130 135 140

Thr Tyr Arg Phe Arg Cys Leu Asn Val Ile Leu Trp Leu Gly Phe Trp
145 150 155 160

Ala Val Gln Leu Asn Val Cys Leu Ser Arg Ile Tyr Leu Ala Ala His
165 170 175

Phe Pro His Gln Val Val Ala Gly Val Leu Ser Gly Ile Ala Val Thr
180 185 190

Glu Thr Phe Ser His Ile His Ser Ile Tyr Asn Ala Ser Leu Lys Lys
195 200 205

Tyr Phe Leu Ile Thr Phe Phe Leu Phe Ser Phe Ala Ile Gly Phe Tyr
210 215 220

Leu Leu Leu Lys Gly Leu Gly Val Asp Leu Leu Trp Thr Leu Glu Lys
225 230 235 240

Ala Gln Arg Trp Cys Glu Gln Pro Glu Trp Val His Ile Asp Thr Thr
245 250 255

Pro Phe Ala Ser Leu Leu Lys Asn Leu Gly Thr Leu Phe Gly Leu Gly
260 265 270

Leu Ala Leu Asn Ser Ser Met Tyr Arg Glu Ser Cys Lys Gly Lys Leu
275 280 285

Ser Lys Trp Leu Pro Phe Arg Leu Ser Ser Ile Val Ala Ser Leu Val
290 295 300

Leu Leu His Val Phe Asp Ser Leu Lys Pro Pro Ser Gln Val Glu Leu
305 310 315 320

Val Phe Tyr Val Leu Ser Phe Cys Lys Ser Ala Val Val Pro Leu Ala
325 330 335

Ser Val Ser Val Ile Pro Tyr Cys Leu Ala Gln Val Leu Gly Gln Pro
340 345 350

His Lys Lys Ser Leu
355